UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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January 22, 2008

Colonel Michael C. Wehr
District Engineer
Department of the Army
Vicksburg District, Corps of Engineers
4155 Clay Street
Vicksburg, Mississippi 39183-3435

Subject: U.S. Army Corps of Engineer's (Corps) Final Yazoo Backwater Area Reformulation Report (FRR) and Final Supplement No. 1 to the 1982 Yazoo Area Pump Project Final Environmental Impact Statement; Washington, Humphries, Sharkey, Issaquena, Warren and Yazoo Counties, MS and Madison Parish, LA; CEQ# 20070486; ERP# COE-E36074-00

Dear Colonel Wehr:

EPA has completed an initial review of the referenced Corps Yazoo Backwater Area FRR and Final Supplemental Environmental Impact Statement (FSEIS) in accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, as well as Section 404 of the Clean Water Act (CWA).[1] We note that the Corps has established January 22, 2008, as the close of the NEPA comment period for the FSEIS and has extended the time period in which a federal agency may make a pre-decisional referral to the Council on Environmental Quality (CEQ). EPA may provide additional project comments within this extended time period.

The FSEIS for the Yazoo Backwater Project reflects years of study, evaluation, coordination and hard work. The staff at the Corps Vicksburg District deserves recognition for the years of commitment and effort that have been necessary to prepare this analysis. I want to emphasize that EPA respects and appreciates the Corps' ongoing cooperation with us on this important project and, in that spirit of coordination, it is our intent to provide these comments in a constructive and helpful manner.

EPA supports the goal of providing improved flood protection for the residents of the Mississippi Delta, and we believe that accomplishment of this vital objective can be fully consistent with ensuring effective protection for the area's valuable natural resources. Although the Corps responded to many of our November 2000 comments on the DSEIS, EPA continues to have significant concerns regarding the nature and extent of

[1] EPA Region 4 provided NEPA and CWA comments on the Draft SEIS (DSEIS) in a letter dated November 3, 2000. The Region 4 Water Management Division subsequently provided comments on the draft wetland, water quality and mitigation appendices of the pre-FSEIS in a letter dated December 6, 2005. Over the years, EPA has also participated in extensive wetland field reviews of the project area.

potential adverse impacts to wetlands and other aquatic resources. Further, EPA is concerned that the project, as proposed, may not be consistent with the requirements of the CWA. EPA believes that alternatives to the proposed project may be available that would provide necessary flood protection while reducing the severity of anticipated adverse environmental impacts.

Project Description

The primary purpose of the Yazoo Backwater Project is to reduce flood damages in the Yazoo Backwater Area. To achieve this objective, the Corps and the Board of Mississippi Levee Commissioners (sponsor) have proposed a Recommended Plan (Alternative 5) with "structural" and "non-structural" components. The structural component entails the construction of a14,000 cubic feet per second (cfs) pumping station at Steele Bayou with a pump-on operation elevation of 87.0 feet, NGVD.[2] The non-structural component includes reforestation of up to 40,751 acres of agricultural lands through the purchase of perpetual conservation easements from willing sellers and operation of the Steele Bayou control gates to maintain water elevations between 70.0 and 73.0 feet, NGVD, in the Yazoo Backwater Area waterways during low-water periods when practical.

Extensive studies of the project area (Yazoo Backwater Area), demonstrate that it includes some of the richest wetland and aquatic resources in the nation including: a highly productive floodplain fishery, a highly productive but increasingly rare bottomland hardwood forest ecosystem that once dominated the Lower Mississippi Alluvial Valley, hemispherically important migratory bird foraging grounds and one of only four remaining backwater ecosystems with a hydrologic connection to the Mississippi River. These wetlands provide critical habitat for a variety of wetland-dependent animal and plant species including the federally-protected Louisiana black bear and pondberry. In addition to serving as critical fish and wildlife habitat, project area wetlands also provide a suite of other important ecological functions. These wetlands protect and improve water quality by removing and retaining pollutants, reduce flood damages by storing floodwaters, recharge groundwater and maintain stream flows, and sequester significant sources of elemental carbon.

The FSEIS provides information regarding the extent of wetlands on the project site and anticipated project-related impacts. Since a number of these acreages are referenced in this letter, they are summarized in the enclosed *Wetlands Table.*

Relevant Statutory & Regulatory Authorities

NEPA Authority – Section 102(2)(C) of NEPA and CEQ's implementing regulations provide, in part, that the agency preparing any detailed statement "...shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved," and shall

[2] In the FSEIS (pg. SEIS-72), the Corps noted that the pumps would be operated when "...stages were predicted to exceed elevation 87.0, NGVD."

explore and evaluate all reasonable alternatives to the proposed action. In addition, under Section 309 of the Clean Air Act, EPA is responsible for reviewing and commenting on major federal actions significantly affecting the quality of the human environment. Section 309(b) of the Clean Air Act and the CEQ regulations at 40 CFR Part 1504 provide for referrals to CEQ if, after the review, the Administrator determines the matter is "unsatisfactory from the standpoint of public health or welfare or environmental quality...."

CWA Authority – Under CWA Section 404, authorization from the Corps is needed for the discharge of dredged or fill material into waters of the United States, including wetlands. The CWA requires that proposed discharges be evaluated for consistency with the environmental standards established under the Section 404(b)(1) Guidelines (the Guidelines), published at 40 CFR Part 230. Although the Corps does not issue itself a CWA permit for civil works projects such as the Yazoo Backwater Project, CWA review and authorization, including a demonstration of compliance with the Guidelines, is still required. Additionally, under CWA Section 404(c), EPA may prohibit or restrict the use of waters of the United States for any activity involving the discharge of dredged or fill material where, after public notice and opportunity for hearing, the Agency determines that such activity will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife or recreation areas. Under 40 CFR Part 231, the Section 404(c) procedures, the Administrator will take into account all information available, including any written determination of compliance with the Guidelines and any public comments, and will consult with the Chief of Engineers.

EPA's Primary Concerns

Based on our review of the FSEIS and the technical appendices, EPA appreciates that the Corps has provided responses to many of the November 2000 EPA comments. It appears, however, that no substantive modifications have been made to the structural components of the Recommended Plan since November 2000 and that the nature and extent of anticipated adverse environmental impacts continue to be highly significant. We continue to have significant concerns with the proposed project including: 1) magnitude of anticipated wetland impacts, 2) compliance with the CWA's substantive environmental criteria (the Guidelines), 3) uncertainties with the proposed reforestation/mitigation plan, 4) changes in land use, 5) environmental justice (EJ) considerations, 6) uncertainty with the economic analysis, and 7) the evaluation of potential project alternatives. These concerns are discussed below.

Magnitude of Wetland Impacts: EPA remains fundamentally concerned that the Recommended Plan will result in significant adverse environmental impacts to extensive areas of ecologically significant and important forested wetlands. The significance of these impacts is heightened by the fact that alternatives appear to be available that make the wetland losses largely avoidable. The FSEIS concludes that the proposed pumping project would degrade the critical functions and values of approximately 67,000 acres of nationally significant wetland resources. Of this total, the FSEIS demonstrates that

approximately 26,300 acres of wetlands would be hydrologically modified to the extent that they would no longer be subject to CWA regulation. The natural timing and frequency of water reaching the remaining approximately 40,700 acres of wetlands would be impacted by the proposed pumping altering their ecological characteristics and reducing their functions. Moreover, we are concerned that the FSEIS may underestimate the extent of wetlands that may be impacted by the project (e.g., those wetlands located within the 2-year floodplain). EPA believes that both wetland assessment approaches, the Flood Event Simulation Model (FESM) (used by the Corps) and the Environmental Monitoring and Assessment Program (EMAP) (used by the EPA), support this concern. As a point of reference, the impacts reported by the FSEIS for this single project are more extensive than the total impacts (on an annual average basis) associated with the 86,000 projects authorized by the Corps permit program nationwide each year.[3] The magnitude of anticipated impacts to waters of the United States identified in the FSEIS raises serious questions about the project's consistency with the requirements of the CWA.

Compliance with the CWA Guidelines: Discharges of dredged or fill material into the nation's waters such as those associated with the proposed pumping project must comply with the substantive environmental criteria established in regulation at 40 CFR Part 230 (Guidelines). The Guidelines prohibit any discharge of dredged or fill material where: (1) there is a less damaging alternative available to meet the project purpose, (2) the proposed project would significantly degrade the nation's waters, (3) the proposed project would violate other environmental standards, including applicable water quality standards, or (4) the proposed project fails to adequately minimize and compensate for wetland and other aquatic resource losses.

The annual hydrologic cycle of water moving into and out of the project area defines the ecological attributes of the project area's wetland and aquatic resources and fuels the fundamental processes essential to fish and wildlife productivity. This annual water cycle not only makes the diverse project area habitats accessible to fish and wildlife but also provides the primary linkage that transfers energy and organisms between the project area wetlands and the rest of the lower Mississippi River ecosystem. The proposed project would significantly alter the hydrologic cycle and degrade or eliminate many of the valuable habitat functions provided by the area's wetland resources, including those associated with fish spawning and rearing.

In addition to these potentially unacceptable adverse effects on fish and wildlife, and given our concerns with the reforestation component of the project described below, the proposed project would degrade the water quality enhancement, floodwater storage, groundwater recharge and carbon sequestration functions provided by project area wetlands. We are concerned that impacts to these kinds of functions at the scale associated with this project may result in significant degradation of the nation's waters (40 CFR 230.10(c)), particularly in light of the extensive historic wetland losses in the lower Mississippi Valley and specifically the Yazoo Backwater Area.

[3] Based on data from Fiscal Years 1999 to 2003. Source: Corps Regulatory Program, Headquarters, 2008. http://www.usace.army.mil/cw/cecwo/reg/2003webcharts.pdf.

Although the FSEIS concludes otherwise, we remain concerned that there is potential for conversion of those 26,300 acres that would no longer be subject to CWA regulation as a result of the project. The indirect/secondary impacts associated with a new use could have adverse environmental effects. For example, agricultural conversion or intensification could have water quality implications by promoting faster and increased surface water runoff from agricultural fields. Given that the Yazoo Backwater Area already contains CWA Section 303(d)-listed impaired waterbodies, additional runoff impacts would likely exacerbate the elevated concentrations of the pollutants of concern, potentially causing or contributing to violations of water quality standards (40 CFR 230.10(b)).

To offset the extensive adverse environmental impacts of the Recommended Plan, the Corps proposes 10,662 acres of compensatory mitigation. Compensation would consist of reforestation and conservation areas located in previously cleared wetlands to enhance those areas into bottomland hardwood forests. Overall, the Corps proposes to acquire a minimum of 15,029 acres for reforestation prior to project pumping (i.e., 10,662 acres plus 4,367 acres of back-logged compensation for already implemented aspects of related projects). However, compensation sites have not been specifically identified for the proposed mitigation. Rather, the FSEIS states that conservation easements will be purchased only from "willing sellers" to conduct the reforestation and conservation required by the Recommended Plan.

EPA has significant concerns regarding the adequacy of the proposed compensatory mitigation. EPA encouraged the use of the Hydrogeomorphic Method (HGM) and the Habitat Evaluation Procedure (HEP) as tools to help evaluate wetland functions, and we still support the use of those tools; however, we believe that certain assumptions used in the application of these assessment tools may be flawed, leading to a significant underestimation of project impacts on the aquatic ecosystem (e.g., assumptions used in the calculation of "functional capacity units"). The Guidelines require a clear accounting of the direct and secondary impacts this project will have on the nation's waters. In light of the scope and magnitude of the project impacts, such an evaluation is all the more critical. Based on our preliminary review of the HGM and HEP analyses, it is likely that compensation requirements for impacts of this type and on this scale may be much greater than that estimated in the FSEIS. In addition, there do not appear to be enough acres of cleared wetlands with the proper hydrology and soils in the target area to satisfy the mitigation goals of the Recommended Plan. Even if sufficient compensation acreage were available, it is unclear that impacts of this scale and concentration could be effectively compensated for (40 CFR 230.10(c)), given that reliance on willing sellers may result in a non-contiguous patchwork of fragmented compensation sites that cannot deliver the kinds of ecological benefits predicted by the FSEIS. Therefore, the Recommended Plan appears to inadequately minimize and compensate for the project's adverse impacts on the aquatic ecosystem pursuant to 40 CFR 230.10(d). Moreover, the extent of potential adverse environmental impacts is magnified because these impacts could be largely avoided (40 CFR 230.10(a)) through the selection of a less damaging alternative (see "Project Alternatives" discussion below).

Uncertainty of the Proposed Reforestation: Consistent with our comments regarding the proposed compensatory mitigation, EPA is concerned that the FSEIS does not provide effective assurances regarding the project's primary non-structural component – the proposed reforestation of up to 40,571 acres of cleared wetlands (i.e., up to 55,600 acres less the 15,029 acres the Corps proposes to use as compensation) through the purchase of conservation easements from willing sellers. Reforestation sites have not been specifically identified in the FSEIS and, as with the compensatory mitigation, there do not appear to be enough acres of cleared wetlands with the appropriate hydrology and soils in the target area to meet this goal. Even if there were enough potential wetland reforestation acres, reliance on willing sellers does not provide effective assurance that the acreage proposed (up to 40,571 acres) will ultimately be made available for the reforestation effort. The reforestation component also suffers from the same technical problems associated with the compensatory mitigation plan in that it would likely result in a fragmented patchwork of reforestation sites with limited benefits. In addition to logistical and technical issues, the management of the reforestation lands (e.g., ensuring the success of replanting efforts, providing long-term stewardship), the replacement of temporal losses incurred before replanted trees become fully functional bottomland hardwood forested wetlands (hardwoods typically require a minimum of 60-70 years before they are mature), and the continuation of silvicultural practices in the reforestation areas are also major uncertainties. In light of these uncertainties, the environmental benefits suggested by the FSEIS to accrue from the proposed reforestation have not been substantiated.

Changes in Land Use: We are concerned that the FSEIS does not adequately consider the secondary environmental impacts associated with potential changes in land use. For example, the FSEIS does not consider the environmental impacts associated with potential agricultural intensification. Given the rise in prices for agricultural products in the Delta, and the strong increase in domestic production of corn nationwide, agricultural intensification is a serious possibility that could affect water quality in the Yazoo Backwater Area.

Environmental Justice Considerations: EPA recognizes the importance of improved flood protection for the people living and working in the project area, which includes low-income and minority populations, and we appreciate that the Corps responded to post-2000 comments by preparing an EJ analysis. Like the Corps, EPA has also met with local community residents and listened to their hope and belief that the Yazoo Backwater Project will protect their homes against major floods, like the one in 1973. It is unclear, however, which communities with potential EJ concerns will remain subject to flooding after the project is completed, and whether they will be protected against 1-year, 2-year, or 100-year floods. Flood risk maps that show the location of communities with potential EJ concerns have not been provided in the FSEIS, and therefore it is not possible to fully assess the extent and the degree of flood risk to the residents in those communities; we believe that such an analysis is needed. The community residents also expressed a strong hope and belief that by making the area less prone to flooding, the project will bring economic development, jobs, and a return of residents to the area. We do not believe that the Corps has fully analyzed the potential

impact of this project on economic development, and some additional information on this point might be beneficial to the community. Finally, the FSEIS does not address whether there are any populations that depend on subsistence fishing or hunting that would be affected by this project; such an analysis would also be a valuable addition.

Economic Analysis: EPA has also reviewed the Economic Analysis Appendix 7 of the FRR. EPA staff met with Corps staff in May 2005, to discuss an earlier draft of this Appendix, and it is clear that a great deal of work has been done since then to improve the economic analysis. However, the EPA continues to have concerns about some methodological issues, including the possible double-counting of some significant categories of benefits. We also note that many of the project benefit calculations are contingent upon outcomes – such as the extent of reforestation – about which we have already raised questions above.

Project Alternatives: EPA believes that practicable, less environmentally damaging alternatives exist that provide improved flood protection; consequently, the approximately 67,000 acres of wetlands impacts identified in the FSEIS may be largely avoidable. Selection of a less-damaging alternative would avoid or reduce the wetland impacts to a nationally significant resource, and could begin to address compensation issues and non-compliance with the Guidelines.

EPA requested consideration of non-structural alternatives as less-damaging alternatives in our November 2000 comment letter. We acknowledge that the FSEIS has carried forward the evaluation of a range of alternatives. However, EPA continues to be concerned over the absence of both an in-depth consideration of the full range of alternatives and a complete evaluation of the effects of the structural and non-structural alternatives. This concern is based on the reliance in the FSEIS on assumptions that may not be fully substantiated. These alternatives should be further considered and coordinated with the leaders of the affected communities to ensure the relevance of the options to local conditions, needs and preferences.

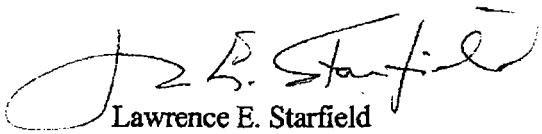
Conclusion

As stated, we remain concerned that the Recommended Plan may result in significant degradation of extremely valuable wetlands resources that have been, and continue to be, vulnerable to conversion and loss throughout the Mississippi Delta. The FSEIS recognizes that the project will result in removal of over 26,000 acres of wetlands from CWA regulation, and impacts an additional estimated 40,700 acres of this highly productive aquatic resource. Uncertainties regarding the efficacy of the compensatory mitigation plan and the potential availability of practicable, less environmentally damaging alternatives to provide needed flood protection improvements, magnify EPA's concerns regarding the nature and extent of the wetlands impacts. EPA considers the proposal a candidate for referral to CEQ. EPA is also considering whether to proceed with an additional review of the project pursuant to our authorities under the CWA.

We recognize and appreciate the extensive work done by the Corps on this project, and hope that we can continue to work together as we move forward. EPA remains available for additional discussion.

Thank you for the opportunity to provide these initial comments on the FSEIS. If you have any questions, please feel free to contact me at 214/665-2100 (starfield.lawrence@epa.gov) or Jim Giattina, EPA Region 4 Director of the Water Management Division, at 404/562-9470 (giattina.jim@epa.gov).

Sincerely,



Lawrence E. Starfield
Deputy Regional Administrator
EPA Region 6 [4]

Enclosure: *Wetlands Table*

cc: Trudy D. Fisher – Executive Director: Mississippi Department of Environmental Quality
Sam Hamilton – SE Regional Director: U.S. Fish and Wildlife Service
Peter Nimrod – Chief Engineer: Board of Mississippi Levee Commissioners

Benjamin Grumbles – EPA
Roger R. Martella, Jr. – EPA
Granta Y. Nakayama – EPA

[4] Pursuant to a special delegation from the EPA Administrator per the November 19, 2007, memorandum, I have been delegated the authority to manage this review on behalf of EPA Region 4.

WETLANDS TABLE

The FSEIS provides information regarding the extent of wetlands on the project site and anticipated project-related impacts. Since a number of these acreages are referenced in this letter, they are summarized below.

ACRES	DESCRIPTION
189,600	Wetland acreage for the Yazoo Backwater Study area, as reported in the FSEIS, using the Flood Event Simulation Model (FESM)
212,000	Wetland acreage for the Yazoo Backwater Study Area using Environmental Monitoring and Assessment Program (EMAP) (216,000 acres was reported in Appendix 10, however, this was an interim result)
26,300	Wetland acreage, reported in the FSEIS, that would be modified to the degree that they would no longer be subject to CWA regulation
40,700	Wetland acreage, reported in the FSEIS, that would be modified to various degrees but remain subject to CWA regulation
67,000	Total wetland impacts reported in the FSEIS (26,300 + 40,700 = 67,000 acres) (Also reported as 66,945 acres on Table 10-18)
3,794	Wetland mitigation (compensation) acreage reported in the FSEIS (Also shown as 3,800 acres in Table SEIS-50; unclear why 5,900 acres was reported in Appendix 10)
10,662	Aquatic spawning habitat compensation reported in the FSEIS (this acreage also includes the 3,794 acres of compensation that, according to the FSEIS, is necessary to offset all adverse impacts to wetlands)
4,367	Back-log compensation for project-related construction already in place as reported in the FSEIS
15,029	Minimum compensation acreage to be obtained prior to initial pump operations as reported in the FSEIS (i.e., 10,662 + 4,367 = 15,029)
40,571	Maximum additional acreage associated with nonstructural component of Recommended Plan as reported in the FSEIS (i.e., reforestation)
55,600	Maximum compensation and reforestation acreage as reported in the FSEIS (i.e., 15,029 + 40,571 = up to 55,600)